

Appl. No. 10/806,855
Amdt. dated April 25, 2006
Reply to Office Action of January 31, 2006
Agent Docket K-2078A

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (original) An impact crusher comprising:

an impeller table assembly including an impeller table having an outer edge portion and an inner edge portion that define an impeller surface, and a plurality of shoes arranged about the impeller surface;

at least one anvil spaced from the outer edge portion of the impeller table;
a center feed disk including a peripheral edge portion, a first face, an opposing, second face, a central bore extending through the first and second faces, and first and second countersunk pockets provided about the central bore in the first and second faces respectively;

a fastener mounting the center feed disk radially inward of the inner edge portion of the impeller table with the first face being exposed, said fastener including a head recessed in the first countersunk pocket, and a shaft extending through the central bore wherein, after the first face develops a wear region resulting from material flow, said fastener can be removed, the center feed disk inverted, and then the center feed disk re-mounted with the second face being exposed, whereby an overall service life of the center feed disk is increased.

2. (original) The impact crusher according to claim 1, wherein the center feed disk comprises a wear-resistant material.

3. (currently amended) The impact crusher according to claim 2, wherein the wear-resistant material comprises a chromium-iron alloy, ~~other metal alloy~~, ceramic composite or cemented carbide.

4. (original) The impact crusher according to claim 3, wherein the chromium-iron alloy includes approximately 23-30% Chromium.

Appl. No. 10/806,855
Amdt. dated April 25, 2006
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Agent Docket K-2078A

5. The impact crusher according to claim 2, wherein the wear-resistant material constitutes cemented carbide.
6. (original) The impact crusher according to claim 5, wherein the wear-resistant material constitutes cemented tungsten carbide.
7. (original) The impact crusher according to claim 1, wherein each of the first and second faces of the center feed disk are initially, substantially smooth.
8. (original) A center feed disk for an impact crusher comprising:
 - a peripheral edge portion;
 - a first face defining a first impact surface;
 - an opposing, second face defining a second impact surface;
 - a central bore extending through the first and second faces; and
 - first and second countersunk pockets provided about the central bore in the first and second faces respectively, wherein the center feed disk can be used in an impact crusher with the first face initially exposed and then the second face subsequently exposed.
9. (original) The center feed disk according to claim 8, wherein the center feed disk is formed from a wear-resistant material.
10. (original) The center feed disk according to claim 9, wherein the wear-resistant material constitutes a chromium-iron alloy.
11. (original) The center feed disk according to claim 10, wherein the chromium-iron alloy includes approximately 23-30% Chromium.
12. (original) The center feed disk according to claim 9, wherein the wear-resistant material constitutes carbide.

Appl. No. 10/806,855
Amdt. dated April 25, 2006
Reply to Office Action of January 31, 2006
Agent Docket K-2078A

13. (original) The center feed disk according to claim 12, wherein the wear-resistant material constitutes cemented tungsten carbide.

14. (original) The center feed disk according to claim 8, wherein each of the first and second annular surfaces are substantially smooth.

15. (original) A center feed disk for an impact crusher comprising:
a peripheral edge portion;

a first face;

an opposing, second face;

a central bore extending through the first and second faces;

means for securing the center feed disk, with the first face being exposed, in an impact crusher; and

means enabling the center feed disk to be inverted and secured in an impact crusher with the second face being exposed.

16. (original) The center feed disk according to claim 15, wherein the enabling means comprises first and second countersunk pockets provided about the central bore in the first and second faces respectively.

17. (original) The center feed disk according to claim 16, wherein the securing means comprises a fastener including a head portion and a shaft portion, said shaft portion being adapted to extend through the central bore to secure the center feed disk in the impact crusher with the head portion being recessed in one of the first and second countersunk pockets.

18. (original) The center feed disk according to claim 15, wherein the center feed disk is formed from a wear-resistant material.

19. (currently amended) The center feed disk according to claim 18, wherein the wear-resistant material comprises a chromium-iron alloy, ~~or other metal alloy~~, ceramic composite or cemented carbide.

Appl. No. 10/806,855
Amdt. dated April 25, 2006
Reply to Office Action of January 31, 2006
Agent Docket K-2078A

20. (original) The center feed disk according to claim 19, wherein the high chromium iron alloy includes 23-30% Chromium.

21. (original) The center feed disk according to claim 18, wherein the wear-resistant material constitutes tungsten carbide.

22. (original) The center feed disk according to claim 21, wherein the wear-resistant material constitutes cemented tungsten carbide.

23. (withdrawn) A method of operating an impact crusher with a center feed disk including a peripheral edge portion, a first face and an opposing, second face comprising:

- positioning the center feed disk within a central portion of an impeller table of the impact crusher, with said first face of the center feed disk being exposed;

- securing the center feed disk for rotation with the impeller table;

- operating the impact crusher, with the first face of the center feed disk receiving material to be crushed, until sufficient wear develops on the first face of the center feed disk;

- removing the center feed disk from the impact crusher;

- inverting the center feed disk to expose the second face;

- re-securing the center feed disk in the impact crusher; and

- operating the impact crusher with the second face receiving the material to be crushed.

24. (withdrawn) The method of claim 23, further comprising: filling wear regions that developed in the first face prior to re-securing the center feed disk.

25. (withdrawn) The method of claim 24, wherein the wear regions are filled with a resin.

26. (withdrawn) The method of claim 25, wherein the wear regions are filled with liquid silicone.

Appl. No. 10/806,855
Amdt. dated April 25, 2006
Reply to Office Action of January 31, 2006
Agent Docket K-2078A

27. (withdrawn) The method of claim 23, further comprising: adding a spacer beneath the first face when inverting the center feed disk to properly position the second face.
28. (withdrawn) The method of claim 23, wherein the impact crusher is operated to crush over 100,000 tons of material prior to inverting the center feed disk.
29. (withdrawn) The method of claim 23, wherein the center feed disk is secured with the first face exposed by means of a mechanical fastener extending through a central bore provided in the center feed disk, with a head portion of the mechanical fastener being recessed in a first countersunk pocket provided in the first face and wherein the center feed disk is secured with the second face exposed by means of the mechanical fastener extending through the central bore, with the head portion of the mechanical fastener being recessed in a second countersunk pocket provided in the second face.
30. (withdrawn) The method according to claim 24, wherein the wear regions are filled with a material containing a high density material selected from the group of aluminum, iron, lead, tungsten, tungsten carbide, and their mixtures and alloys with each other and other materials.